



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,483	12/17/2003	Heidi A. Ward	GEMS8081.188	1482
27061	7590	06/28/2005	EXAMINER	
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (GEMS)			VARGAS, DIXOMARA	
14135 NORTH CEDARBURG ROAD			ART UNIT	
MEQUON, WI 53097			PAPER NUMBER	

2859

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

52

Office Action Summary	Application No. 10/707,483	Applicant(s) WARD ET AL.	
	Examiner Dixomara Vargas	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 14-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/17/03, 01/16/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 14-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected specie, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 05/17/05.
2. Applicant's election with traverse of specie I in the reply filed on 05/17/05 is acknowledged. The traversal is on the ground(s) that the Office Action does not provide the particular reasons relied on by the Examiner for holding that the inventions as claimed are either independent or distinct. This is not found persuasive because the claims are directed to patentably distinct inventions (species with a patentable difference between them) since the claims presented are not clearly unpatentable (obvious) over each other and therefore, restriction is proper pursuant to 35 U.S.C. 121, and it is not necessary to show a separate status in the art or separate classification. See MPEP 808.01(a). As noted in the previous office action, the claims are directed to 4 different species wherein for example, Specie I is regarding a method that only acquires a volume in an elliptic centric phase encode order, however, Specie II, in addition performs the step wherein a discarded acquisitions segmented configures to be played out after the first SSFP pulse sequence and before the second SSFP pulse sequence. Additionally, Specie III is the MR systems configurations to perform the method of Specie II and Specie IV is a computer system used with the MR system to perform a variation of the methods from either Species I or II depending on the system capabilities. Therefore, for the reasons stated above, the claims are considered to have patentably distinct inventions that constitute a burdensome search.

Art Unit: 2859

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siuciak et al. (US 5,055,790) in view of Du (US 6,144,874 A).

With respect to claim 1, Siuciak discloses a method comprising the steps of applying at least one SSFP pulse sequence to acquire MR data for at least one volume of data for an anatomy of interest; and acquiring MR data for at least one volume (Column 3, lines 25-39).

In addition, Siuciak discloses the claimed invention as stated above except for the step of using an elliptic centric phase encode order to acquire the MR data. However, Du discloses the step of using an elliptic centric phase encode order to acquire the MR data (Column 5, lines 10-

Art Unit: 2859

36). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Du's elliptic centric phase encode order to acquire the MR data with Siuciak's method for the purpose of acquiring all the views and reduce the scan time without reducing image quality as taught by Du (Column 2, lines 11-44).

Allowable Subject Matter

6. Claims 2-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

a. With respect to claim 2, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a method comprising the step of purposely disrupting steady-state conditions of a first volume after acquisition of the first volume to reduce oscillatory transient signals in a second volume in combination with the remaining limitations of claim 1 above.

b. With respect to claim 3, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a method comprising the step wherein at least one SSFP pulse sequence includes a first SSFP pulse sequence to acquire MR data for a first volume and a second SSFP pulse sequence to acquire MR data for the second volume, and comprising the step of acquiring MR data for the first volume in a reverse elliptic centric phase encode order and acquiring MR data for the second

volume in an elliptic phase encode order in combination with the remaining limitations of claim 1 above.

c. With respect to claims 4-10, the claims have been allowed due to their dependency on claim 3 above.

d. With respect to claims 11-13, the claims have been allowed due to their dependency on claim 2 above.

Conclusion

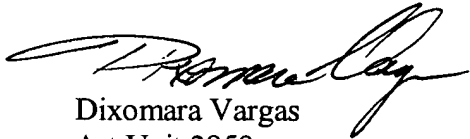
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional prior art cited in the PTO 892 discloses MR methods with SSFP sequences.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (571) 272-2252. The examiner can normally be reached on Monday to Thursday from 8:00 am. to 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2859

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dixomara Vargas
Art Unit 2859
June 27, 2005



Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800